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## No. XIII.

## BEVELLING INSTRUMENT FOR JOINERS.

*The SILVER ISIS MEDAL was presented to Mr. THOMAS QUARM, 32 Wood Street, Princes Road, Lambeth, for a Beveling Instrument for Joiners; a Model of which has been placed in the Society's Repository.*

32 Wood Street, Princes Road, Lambeth.

GENTLEMEN,

January 11, 1843.

IN my extensive practice in the finer parts of joinery, I have oftentimes required a tool to answer the many purposes to which the one I lay before you may be applied. It will be found a valuable acquisition where any two angles when applied together are to form right angles.

In a shop door the margins below the middle rail are at all times different from those above, which are required to form the sash. This causes the shoulder of the rail to be at a bevel, to meet the stile in the angle on the upper and lower edges of the rail, the angles on the reverse side of the door always varying to some extent; therefore, the angle of the shoulder would require to be different, as the case may require. By fixing the blade to the given angle, and by applying the reverse leg of the tool to the other piece, the line to cut to would be immediately given, so that, when applied together, they would be at right angles to each other as required, and, in the same way, the angles of the other side of the door would be given, therefore working with it with as much certainty as though the shoulders were square. Again, as all mitre squares hitherto constructed are subject to the change of

atmosphere, and never correct, it would be a very unhandy tool if the blade were made of any length, answering only to one angle, if constructed with one leg only, however inaccurate the tool might be, the error would be increased twofold when applied together. Both pieces would be fitted to the one leg in the present tool by moving the blade round to  $45^\circ$ , being so far as it will go; the fitting of one piece to one leg, and the other piece to the other leg, would, with certainty, form right angles when applied together; for, whatever might be the deficiency on the one side, would be made up on the other, if any. Again, by moving the blade in a straight line with the one leg, it will form right angles with the other, and may be used as a square in case of necessity.

It will be found a very useful appendage to the drawing-board, to draw any given line to a certain angle required, without the assistance of a sector or scale; also as a bevel in isometrical and other perspective.

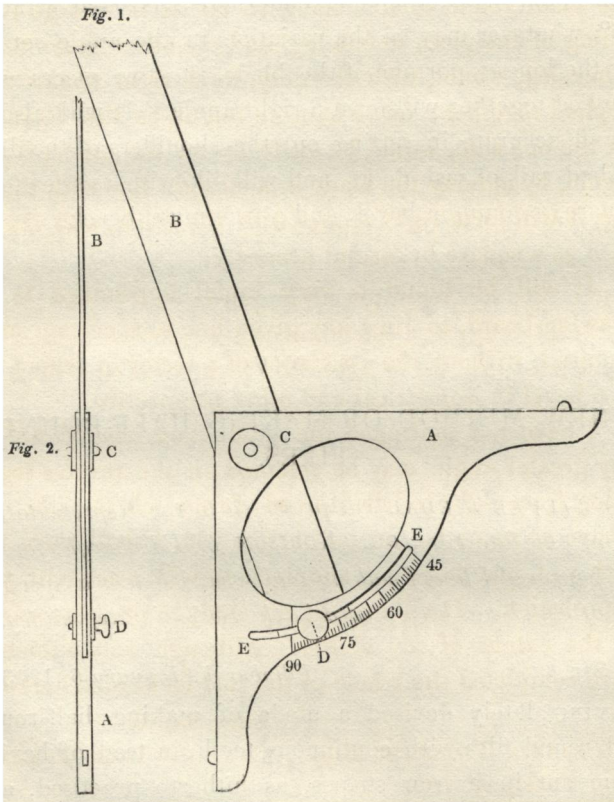
I have not continued the graduation beyond  $45^\circ$ , as any greater angle may be obtained on the reverse leg by going from right to left, instead of from left to right. As I have no name for the tool before you, I shall leave that with you, and hope my simple idea will meet with your approbation. It will ever be my study to promote science to the extent of my ability. Although only a joiner, I have completed the whole of the tool forwarded herewith.

I am, Sir, &c.

FRANCIS WHISHAW, Esq.  
Society of Arts.

THOS. QUARM.

Fig. 1 shews a front view, and fig. 2 a side view of the instrument, one quarter the original size, by the aid of which any two angular pieces of framing required to form a right angle may be accurately put together. A is the stock, composed of brass or gun-metal, to prevent the action of the atmosphere on it, so as to preserve its shape



accurately; B the blade, turning on the centre-pin C, altogether about twenty-four inches in length; D a set screw, working in a groove EE, to allow of the blade being fixed at any given angle.

Fixed mitre-bevels, when made with one leg only, frequently vary from the angle of  $45^{\circ}$ , or half a right angle, so that when two pieces which have been set out by such a tool are applied together, their incorrectness is increased two-fold; whereas, in Mr. Quarm's tool, that difficulty is obviated by the use of the short end of the blade; for when the long end thereof is fixed at about  $45^{\circ}$ , whatever may be the variation in the angle set out by the longer portion of the blade, the two pieces when applied together will form a right angle. It will also be found accurate in setting out the shoulders of the diminished rail of sash-doors, and will likewise answer for a square, a common bevel, and a true mitre-bevel.

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No. XIV.

NEW METHOD OF MAKING HALF-ROUND  
FILES.

*The SILVER MEDAL was presented to the Representatives of the late Sir JOHN ROBISON, of Edinburgh, for his improved Plan of making Half-round Files; a Specimen of which has been placed in the Society's Repository.*

SIR,

*Edinburgh, January 5, 1843.*

HAVING lately devised a mode of making half-round and round files with continuous teeth, instead of having them cut in narrow stripes, as hitherto practised, and believing that the process I have proposed may be followed with much advantage to the mechanical arts, I beg leave to communicate it to the Society of Arts, with the view that, if they approve of it, it may, through their